WHAT IS CLAIMED IS:

1. A single-ended-to-differential mixer, comprising:

a differential input circuit,

wherein the differential input circuit is configured to receive a single-ended input signal,

wherein the differential input circuit comprises:

a first transistor and a second transistor configured as a differential amplifier to convert the single-ended input signal from a voltage signal to first and second current signals; and

a first cancellation circuit and a second cancellation circuit,

wherein the first cancellation circuit comprises a third transistor,

wherein an emitter of the third transistor is in communication with a base of the third transistor,

wherein the second cancellation circuit comprises a fourth transistor,

wherein an emitter of the fourth transistor is in communication with a base of the fourth transistor,

wherein the first and second cancellation circuits are configured to receive the single-ended input signal,

wherein collectors of the first and second cancellation circuits are in cross-communication with collectors of the differential amplifier of the differential input circuit, and

wherein the first and second cancellation circuits cancel non-linear capacitance associated with the differential amplifier;

a tank circuit,

wherein the tank circuit comprises:

an inductor; and

a tuning capacitor arranged in parallel with the inductor,

wherein a resonant frequency of the inductor and tuning capacitor is substantially centered around a predetermined frequency of the single-ended input signal,

wherein the tank circuit is in communication between a ground and common emitters of the differential amplifier of the differential input circuit, and

wherein the tank circuit is configured as a passive current source; and

a mixer circuit,

wherein the mixer circuit is in communication with the differential input circuit and configured to receive the first and second current signals,

wherein the mixer circuit is configured to receive a second input signal, and

wherein the mixer circuit is configured as a Gilbert cell double-balanced switching mixer for generating a differential mixer output signal as a product of the first and second current signals and the second input signal.

2. The single-ended-to-differential mixer of claim 1, wherein the single-ended input signal comprises a single-ended radio frequency input signal.

3. The single-ended-to-differential mixer of claim 1, wherein the tank circuit provides a high impedance at the predetermined frequency of the single-ended input signal.

4. The single-ended-to-differential mixer of claim 1, wherein the second input signal comprises a local oscillator signal.

5. The single-ended-to-differential mixer of claim 4, comprising:

a limiter circuit in communication with the mixer circuit and configured to receive the local oscillator signal,

wherein the limiter circuit limits a swing range of the local oscillator signal applied to the mixer circuit.

6. The single-ended-to-differential mixer of claim 1, comprising:

a variable load in communication with the mixer circuit and configured to receive the differential mixer output signal,

wherein the variable load is configured to cause the gain of the single-ended-to-differential mixer to vary.

7. The single-ended-to-differential mixer of claim 1, wherein at least the differential input circuit, the tank circuit and the mixer circuit are formed on a monolithic substrate.

8. The single-ended-to-differential mixer of claim 7, wherein the first cancellation circuit and the second cancellation circuit are formed on the monolithic substrate.

9. The single-ended-to-differential mixer of claim 1, wherein the single-ended-to-differential mixer comprises a mixer portion of a wireless transceiver.

10. The single-ended-to-differential mixer of claim 1, wherein the system is compliant with a standard selected from the group consisting of 802.11, 802.11a, 802.11b, 802.11g and 802.11i.

11. A single-ended-to-differential mixer, comprising:

a differential input circuit means,

wherein the differential input circuit means is configured to receive a single-ended input signal,

wherein the differential input circuit means comprises:

a first amplifier means and a second amplifier means configured as a differential amplifier means to convert the single-ended input signal from a voltage signal to first and second current signals,

wherein each amplifier means includes first, second and third electrode means; and

a first cancellation circuit means and a second cancellation circuit means,

wherein the first cancellation circuit means comprises a third amplifier means,

wherein a third electrode means of the third amplifier means is in communication with a second electrode means of the third amplifier means,

wherein the second cancellation circuit means comprises a fourth amplifier means,

wherein a third electrode means of the fourth amplifier means is in communication with a second electrode means of the fourth amplifier means,

wherein the first and second cancellation circuit means are configured to receive the single-ended input signal,

wherein first electrode means of the first and second cancellation circuit means are in cross-communication with first electrode means of the differential amplifier means of the differential input circuit means, and

wherein the first and second cancellation circuit means cancel non-linear capacitance associated with the differential amplifier means;

a tank circuit means,

wherein the tank circuit means comprises:

an inductive means; and

a tuning capacitive means arranged in parallel with the inductive means,

wherein a resonant frequency of the inductive means and tuning capacitive means is substantially centered around a predetermined frequency of the single-ended input signal,

wherein the tank circuit means is in communication between a reference voltage and third electrode means of the differential amplifier means of the differential input circuit means, and

wherein the tank circuit means is configured as a passive current source means; and

a mixer circuit means,

wherein the mixer circuit means is in communication with the differential input circuit means and configured to receive the first and second current signals,

wherein the mixer circuit means is configured to receive a second input signal, and

wherein the mixer circuit means is configured as a Gilbert cell double-balanced switching mixer means for generating a differential mixer output signal as a product of the first and second current signals and the second input signal.

12. The single-ended-to-differential mixer of claim 11, wherein the single-ended input signal comprises a single-ended radio frequency input signal.

13. The single-ended-to-differential mixer of claim 11, wherein the tank circuit means provides a high impedance at the predetermined frequency of the single-ended input signal.

14. The single-ended-to-differential mixer of claim 11, wherein the second input signal comprises a local oscillator signal.

15. The single-ended-to-differential mixer of claim 14, comprising:

a limiter circuit means in communication with the mixer circuit means and configured to receive the local oscillator signal,

wherein the limiter circuit means limits a swing range of the local oscillator signal applied to the mixer circuit means.

16. The single-ended-to-differential mixer of claim 11, comprising:

a variable load means in communication with the mixer circuit means and configured to receive the differential mixer output signal,

wherein the variable load means is configured to cause the gain of the single-ended-to-differential mixer to vary.

17. The single-ended-to-differential mixer of claim 11, wherein at least the differential input circuit means, the tank circuit means and the mixer circuit means are formed on a monolithic substrate.

18. The single-ended-to-differential mixer of claim 17, wherein the first cancellation circuit means and the second cancellation circuit means are formed on the monolithic substrate.

19. The single-ended-to-differential mixer of claim 11, wherein the single-ended-to-differential mixer comprises a mixer portion of a wireless transceiver means.

20. The single-ended-to-differential mixer of claim 11, wherein the system is compliant with a standard selected from the group consisting of 802.11, 802.11a, 802.11b, 802.11g and 802.11i.

21. A single-ended-to-differential mixer, comprising:

a differential input circuit having a single-ended input,

wherein the differential input circuit is responsive to a single-ended input signal to generate first and second signals;

a passive tank circuit,

wherein the passive tank circuit is in communication between a reference voltage and the differential input circuit; and

a mixer circuit,

wherein the mixer circuit is in communication with the differential input circuit and responsive to the first and second signals and a second input signal to generate a differential mixer output signal.

22. The single-ended-to-differential mixer of claim 21, wherein the first and second signals comprise first and second current signals, respectively,

wherein the differential input circuit is configured as a differential amplifier to convert the single-ended input signal from a voltage signal to the first and second current signals, and

wherein the mixer circuit is configured as a double-balanced switching mixer for generating the differential mixer output signal as a product of the first and second current signals and the second input signal.

23. The single-ended-to-differential mixer of claim 21, wherein the differential input circuit further comprises:

a first cancellation circuit and a second cancellation circuit,

wherein the first and second cancellation circuits are responsive to the single-ended input signal,

wherein the first and second cancellation circuits are in cross-communication with the differential input circuit, and

wherein the first and second cancellation circuits cancel non-linear capacitance associated with the differential input circuit.

24. The single-ended-to-differential mixer of claim 23, wherein the first and second cancellation circuits each comprise a transistor,

wherein, for each transistor, an emitter of the transistor is in communication with a base of the transistor, and

wherein collectors of the transistors of each of the first and second cancellation circuits are in cross-communication with collectors of the differential input circuit.

25. The single-ended-to-differential mixer of claim 21, wherein the differential input circuit comprises a first transistor and a second transistor configured as a differential amplifier pair.

26. The single-ended-to-differential mixer of claim 21, wherein the single-ended input signal comprises a single-ended radio frequency input signal.

27. The single-ended-to-differential mixer of claim 21, wherein the passive tank circuit provides a high impedance at a predetermined frequency of the single-ended input signal.

28. The single-ended-to-differential mixer of claim 21, wherein the passive tank circuit comprises an inductor.

29. The single-ended-to-differential mixer of claim 28, wherein the passive tank circuit further comprises a tuning capacitor arranged in parallel with the inductor,

wherein a resonant frequency of the inductor and tuning capacitor is substantially centered around a predetermined frequency of the single-ended input signal.

30. The single-ended-to-differential mixer of claim 21, wherein the mixer circuit comprises a Gilbert cell mixer.

31. The single-ended-to-differential mixer of claim 21, wherein the second input signal comprises a local oscillator signal.

32. The single-ended-to-differential mixer of claim 31, comprising:

a limiter circuit in communication with the mixer circuit and responsive to the local oscillator signal,

wherein the limiter circuit limits a swing range of the local oscillator signal applied to the mixer circuit.

33. The single-ended-to-differential mixer of claim 21, comprising:

a variable load in communication with the mixer circuit and responsive to the differential mixer output signal,

wherein the variable load is configured to cause the gain of the single-ended-to-differential mixer to vary.

34. The single-ended-to-differential mixer of claim 21, wherein at least the differential input circuit, the passive tank circuit and the mixer circuit are formed on a monolithic substrate.

35. The single-ended-to-differential mixer of claim 34, wherein a first cancellation circuit and a second cancellation circuit are formed on the monolithic substrate.

36. The single-ended-to-differential mixer of claim 21, wherein the single-ended-to-differential mixer comprises a mixer portion of a wireless transceiver.

37. The single-ended-to-differential mixer of claim 21, wherein the single-ended-to-differential mixer is compliant with a standard selected from the group consisting of 802.11, 802.11a, 802.11b, 802.11g and 802.11i.

38. A single-ended-to-differential mixer, comprising:

a differential input circuit means having a single-ended input means,

wherein the differential input circuit means is responsive to a single-ended input signal to generate first and second signals;

a passive tank circuit means,

wherein the passive tank circuit means is in communication between a reference voltage and the differential input circuit means; and

a mixer circuit means,

wherein the mixer circuit means is in communication with the differential input circuit means and responsive to the first and second signals and a second input signal to generate a differential mixer output signal.

39. The single-ended-to-differential mixer of claim 38, wherein the first and second signals comprise first and second current signals, respectively,

wherein the differential input circuit means is configured as a differential amplifier means to convert the single-ended input signal from a voltage signal to the first and second current signals, and

wherein the mixer circuit means is configured as a double-balanced switching mixer means for generating the differential mixer output signal as a product of the first and second current signals and the second input signal.

40. The single-ended-to-differential mixer of claim 38, wherein the differential input circuit means further comprises:

a first cancellation circuit means and a second cancellation circuit means,

wherein the first and second cancellation circuit means are responsive to the single-ended input signal,

wherein the first and second cancellation circuit means are in cross-communication with the differential input circuit means, and

wherein the first and second cancellation circuit means cancel non-linear capacitance associated with the differential input circuit means.

41. The single-ended-to-differential mixer of claim 40, wherein the first and second cancellation circuit means each comprise an amplifier means,

wherein each amplifier means includes first, second and third electrode means,

wherein, for each amplifier means, a third electrode means of the amplifier means is in communication with a second electrode means of the amplifier means, and

wherein first electrode means of the amplifier means of each of the first and second cancellation circuit means are in cross-communication with first electrode means of the differential input circuit.

42. The single-ended-to-differential mixer of claim 38, wherein the differential input circuit means comprises a first amplifier means and a second amplifier means configured as a differential amplifier means.

43. The single-ended-to-differential mixer of claim 38, wherein the single-ended input signal comprises a single-ended radio frequency input signal.

44. The single-ended-to-differential mixer of claim 38, wherein the passive tank circuit means provides a high impedance at a predetermined frequency of the single-ended input signal.

45. The single-ended-to-differential mixer of claim 38, wherein the passive tank circuit means comprises an inductive means.

46. The single-ended-to-differential mixer of claim 45, wherein the passive tank circuit means further comprises a tuning capacitive means arranged in parallel with the inductive means,

wherein a resonant frequency of the inductive means and tuning capacitive means is substantially centered around a predetermined frequency of the single-ended input signal.

47. The single-ended-to-differential mixer of claim 38, wherein the mixer circuit means comprises a Gilbert cell mixer means.

48. The single-ended-to-differential mixer of claim 38, wherein the second input signal comprises a local oscillator signal.

49. The single-ended-to-differential mixer of claim 48, comprising:

a limiter circuit means in communication with the mixer circuit means and responsive to the local oscillator signal,

wherein the limiter circuit means limits a swing range of the local oscillator signal applied to the mixer circuit means.

50. The single-ended-to-differential mixer of claim 38, comprising:

a variable load means in communication with the mixer circuit means and responsive to the differential mixer output signal,

wherein the variable load means is configured to cause the gain of the single-ended-to-differential mixer to vary.

51. The single-ended-to-differential mixer of claim 38, wherein at least the differential input circuit means, the passive tank circuit means and the mixer circuit means are formed on a monolithic substrate.

52. The single-ended-to-differential mixer of claim 51, wherein a first cancellation circuit means and a second cancellation circuit means are formed on the monolithic substrate.

53. The single-ended-to-differential mixer of claim 38, wherein the single-ended-to-differential mixer comprises a mixer portion of a wireless transceiver means.

54. The single-ended-to-differential mixer of claim 38, wherein the single-ended-to-differential mixer is compliant with a standard selected from the group consisting of 802.11, 802.11a, 802.11b, 802.11g and 802.11i.

55. A method for converting a single-ended input signal to a differential output signal, comprising the steps of:

providing:

a single-ended-to-differential mixer, wherein the single-ended-to-differential mixer comprises:

a differential input circuit having a single-ended input;

a passive tank circuit,

wherein the passive tank circuit is in communication between a reference voltage and the differential input circuit; and

a mixer circuit,

wherein the mixer circuit is in communication with the differential input circuit;

receiving the single-ended input signal, using the differential input circuit;

converting the single-ended input signal to first and second signals, using the differential input circuit;

receiving the first and second signals and a second input signal, using the mixer circuit; and

generating a differential mixer output signal from the first and second signals and the second input signal, using the mixer circuit.

56. The method of claim 55, wherein the first and second signals comprise first and second current signals, respectively,

wherein the differential input circuit is configured as a differential amplifier to convert the single-ended input signal from a voltage signal to the first and second current signals, and

wherein the mixer circuit is configured as a double-balanced switching mixer for generating the differential mixer output signal as a product of the first and second current signals and the second input signal.

57. The method of claim 55, comprising the steps of:

providing:

a first cancellation circuit and a second cancellation circuit,

wherein the first and second cancellation circuits are responsive to the single-ended input signal,

wherein the first and second cancellation circuits are in cross-communication with the differential input circuit; and

canceling non-linear capacitance associated with the differential input circuit, using the first and second cancellation circuits.

58. The method of claim 57, wherein the first and second cancellation circuits each comprise a transistor,

wherein, for each transistor, an emitter of the transistor is in communication with a base of the transistor, and

wherein collectors of the transistors of each of the first and second cancellation circuits are in cross-communication with collectors of the differential input circuit.

59. The method of claim 55, wherein the differential input circuit comprises a first transistor and a second transistor configured as a differential amplifier pair.

60. The method of claim 55, wherein the single-ended input signal comprises a single-ended radio frequency input signal.

61. The method of claim 55, wherein the passive tank circuit provides a high impedance at a predetermined frequency of the single-ended input signal.

62. The method of claim 55, wherein the passive tank circuit comprises an inductor.

63. The method of claim 62, wherein the passive tank circuit further comprises a tuning capacitor arranged in parallel with the inductor,

wherein a resonant frequency of the inductor and tuning capacitor is substantially centered around a predetermined frequency of the single-ended input signal.

64. The method of claim 55, wherein the mixer circuit comprises a Gilbert cell mixer.

65. The method of claim 55, wherein the second input signal comprises a local oscillator signal.

66. The method of claim 65, comprising the steps of:

providing:

a limiter circuit in communication with the mixer circuit; and

limiting a swing range of the local oscillator signal applied to the mixer circuit, using the limiter circuit.

67. The method of claim 55, comprising the steps of:

providing:

a variable load in communication with the mixer circuit and responsive to the differential mixer output signal; and

varying the gain of the single-ended-to-differential mixer, using the variable load.

68. The method of claim 55, wherein at least the differential input circuit, the passive tank circuit and the mixer circuit are formed on a monolithic substrate.

69. The method of claim 68, wherein a first cancellation circuit and a second cancellation circuit are formed on the monolithic substrate.

70. The method of claim 55, wherein the single-ended-to-differential mixer comprises a mixer portion of a wireless transceiver.

71. The method of claim 55, wherein the method is compliant with a standard selected from the group consisting of 802.11, 802.11a, 802.11b, 802.11g and 802.11i.

72. A single-ended-to-differential mixer, comprising:

a differential input circuit having a single-ended input,

wherein the differential input circuit is responsive to a single-ended input signal to generate first and second signals;

a first cancellation circuit and a second cancellation circuit,

wherein the first and second cancellation circuits are responsive to the single-ended input signal,

wherein the first and second cancellation circuits are in cross-communication with the differential input circuit, and

wherein the first and second cancellation circuits cancel non-linear capacitance associated with the differential input circuit; and

a mixer circuit,

wherein the mixer circuit is in communication with the differential input circuit and responsive to the first and second signals and a second input signal to generate a differential mixer output signal.

73. The single-ended-to-differential mixer of claim 72, wherein the differential input circuit comprises a first transistor and a second transistor configured as a differential amplifier pair.

74. The single-ended-to-differential mixer of claim 72, wherein the single-ended input signal comprises a single-ended radio frequency input signal.

75. The single-ended-to-differential mixer of claim 72, wherein the first and second cancellation circuits each comprise a transistor,

wherein, for each transistor, an emitter of the transistor is in communication with a base of the transistor, and

wherein collectors of the transistors of each of the first and second cancellation circuits are in cross-communication with collectors of the differential input circuit.

76. The single-ended-to-differential mixer of claim 72, wherein the first and second signals comprise first and second current signals, respectively,

wherein the differential input circuit is configured as a differential amplifier to convert the single-ended input signal from a voltage signal to the first and second current signals, and

wherein the mixer circuit is configured as a double-balanced switching mixer for generating the differential mixer output signal as a product of the first and second current signals and the second input signal.

77. The single-ended-to-differential mixer of claim 72, wherein the differential input circuit further comprises:

a passive tank circuit,

wherein the passive tank circuit is in communication between a reference voltage and the differential input circuit.

78. The single-ended-to-differential mixer of claim 77, wherein the passive tank circuit provides a high impedance at a predetermined frequency of the single-ended input signal.

79. The single-ended-to-differential mixer of claim 77, wherein the passive tank circuit comprises an inductor.

80. The single-ended-to-differential mixer of claim 79, wherein the passive tank circuit further comprises a tuning capacitor arranged in parallel with the inductor,

wherein a resonant frequency of the inductor and tuning capacitor is substantially centered around a predetermined frequency of the single-ended input signal.

81. The single-ended-to-differential mixer of claim 72, wherein the mixer circuit comprises a Gilbert cell mixer.

82. The single-ended-to-differential mixer of claim 72, wherein the second input signal comprises a local oscillator signal.

83. The single-ended-to-differential mixer of claim 82, comprising:

a limiter circuit in communication with the mixer circuit and responsive to the local oscillator signal,

wherein the limiter circuit limits a swing range of the local oscillator signal applied to the mixer circuit.

84. The single-ended-to-differential mixer of claim 72, comprising:

a variable load in communication with the mixer circuit and responsive to the differential mixer output signal,

wherein the variable load is configured to cause the gain of the single-ended-to-differential mixer to vary.

85. The single-ended-to-differential mixer of claim 72, wherein at least the differential input circuit, the first and second cancellation circuits, and the mixer circuit are formed on a monolithic substrate.

86. The single-ended-to-differential mixer of claim 85, wherein a passive tank circuit is formed on the monolithic substrate.

87. The single-ended-to-differential mixer of claim 72, wherein the single-ended-to-differential mixer comprises a mixer portion of a wireless transceiver.

88. The single-ended-to-differential mixer of claim 72, wherein the single-ended-to-differential mixer is compliant with a standard selected from the group consisting of 802.11, 802.11a, 802.11b, 802.11g and 802.11i.

89. A single-ended-to-differential mixer, comprising:

a differential input circuit means having a single-ended input means,

wherein the differential input circuit means is responsive to a single-ended input signal to generate first and second signals;

a first cancellation circuit means and a second cancellation circuit means,

wherein the first and second cancellation circuit means are responsive to the single-ended input signal,

wherein the first and second cancellation circuit means are in cross-communication with the differential input circuit means, and

wherein the first and second cancellation circuit means cancel non-linear capacitance associated with the differential input circuit means; and

a mixer circuit means,

wherein the mixer circuit means is in communication with the differential input circuit means and responsive to the first and second signals and a second input signal to generate a differential mixer output signal.

90. The single-ended-to-differential mixer of claim 89, wherein the differential input circuit means comprises a first amplifier means and a second amplifier means configured as a differential amplifier means.

91. The single-ended-to-differential mixer of claim 89, wherein the single-ended input signal comprises a single-ended radio frequency input signal.

92. The single-ended-to-differential mixer of claim 89, wherein the first and second cancellation circuit means each comprise an amplifier means,

wherein each amplifier means includes first, second and third electrode means,

wherein, for each amplifier means, a third electrode means of the amplifier means is in communication with a second electrode means of the amplifier means, and

wherein first electrode means of the amplifier means of each of the first and second cancellation circuit means are in cross-communication with first electrode means of the differential input circuit.

93. The single-ended-to-differential mixer of claim 89, wherein the first and second signals comprise first and second current signals, respectively,

wherein the differential input circuit means is configured as a differential amplifier means to convert the single-ended input signal from a voltage signal to the first and second current signals, and

wherein the mixer circuit means is configured as a double-balanced switching mixer means for generating the differential mixer output signal as a product of the first and second current signals and the second input signal.

94. The single-ended-to-differential mixer of claim 89, wherein the differential input circuit means further comprises:

a passive tank circuit means,

wherein the passive tank circuit means is in communication between a reference voltage and the differential input circuit means.

95. The single-ended-to-differential mixer of claim 94, wherein the passive tank circuit means provides a high impedance at a predetermined frequency of the single-ended input signal.

96. The single-ended-to-differential mixer of claim 94, wherein the passive tank circuit means comprises an inductive means.

97. The single-ended-to-differential mixer of claim 96, wherein the passive tank circuit means further comprises a tuning capacitive means arranged in parallel with the inductive means,

wherein a resonant frequency of the inductive means and tuning capacitive means is substantially centered around a predetermined frequency of the single-ended input signal.

98. The single-ended-to-differential mixer of claim 89, wherein the mixer circuit means comprises a Gilbert cell mixer means.

99. The single-ended-to-differential mixer of claim 89, wherein the second input signal comprises a local oscillator signal.

100. The single-ended-to-differential mixer of claim 99, comprising:

a limiter circuit means in communication with the mixer circuit means and responsive to the local oscillator signal,

wherein the limiter circuit means limits a swing range of the local oscillator signal applied to the mixer circuit means.

101. The single-ended-to-differential mixer of claim 89, comprising:

a variable load means in communication with the mixer circuit means and responsive to the differential mixer output signal,

wherein the variable load means is configured to cause the gain of the single-ended-to-differential mixer to vary.

102. The single-ended-to-differential mixer of claim 89, wherein at least the differential input circuit means, the first and second cancellation circuit means and the mixer circuit means are formed on a monolithic substrate.

103. The single-ended-to-differential mixer of claim 102, wherein a passive tank circuit is formed on the monolithic substrate.

104. The single-ended-to-differential mixer of claim 89, wherein the single-ended-to-differential mixer comprises a mixer portion of a wireless transceiver means.

105. The single-ended-to-differential mixer of claim 89, wherein the single-ended-to-differential mixer is compliant with a standard selected from the group consisting of 802.11, 802.11a, 802.11b, 802.11g and 802.11i.

106. A method for converting a single-ended input signal to a differential output signal, comprising the steps of:

providing:

a single-ended-to-differential mixer, wherein the single-ended-to-differential mixer comprises:

a differential input circuit having a single-ended input;

a first cancellation circuit and a second cancellation circuit,

wherein the first and second cancellation circuits are in cross-communication with the differential input circuit; and

a mixer circuit,

wherein the mixer circuit is in communication with the differential input circuit;

receiving the single-ended input signal, using the differential input circuit;

canceling non-linear capacitance associated with the differential input circuit, using the first and second cancellation circuits;

converting the single-ended input signal to first and second signals, using the differential input circuit;

receiving the first and second signals and a second input signal, using the mixer circuit; and

generating a differential mixer output signal from the first and second signals and the second input signal, using the mixer circuit.

107. The method of claim 106, wherein the differential input circuit comprises a first transistor and a second transistor configured as a differential amplifier pair.

108. The method of claim 106, wherein the single-ended input signal comprises a single-ended radio frequency input signal.

109. The method of claim 106, wherein the first and second cancellation circuits each comprise a transistor,

wherein, for each transistor, an emitter of the transistor is in communication with a base of the transistor, and

wherein collectors of the transistors of each of the first and second cancellation circuits are in cross-communication with collectors of the differential input circuit.

110. The method of claim 106, wherein the first and second signals comprise first and second current signals, respectively,

wherein the differential input circuit is configured as a differential amplifier to convert the single-ended input signal from a voltage signal to the first and second current signals, and

wherein the mixer circuit is configured as a double-balanced switching mixer for generating the differential mixer output signal as a product of the first and second current signals and the second input signal.

111. The method of claim 106, comprising the steps of:

providing:

a passive tank circuit,

wherein the passive tank circuit is in communication between a reference voltage and the differential input circuit.

112. The method of claim 111, wherein the passive tank circuit provides a high impedance at a predetermined frequency of the single-ended input signal.

113. The method of claim 111, wherein the passive tank circuit comprises an inductor.

114. The method of claim 113, wherein the passive tank circuit further comprises a tuning capacitor arranged in parallel with the inductor,

wherein a resonant frequency of the inductor and tuning capacitor is substantially centered around a predetermined frequency of the single-ended input signal.

115. The method of claim 106, wherein the mixer circuit comprises a Gilbert cell mixer.

116. The method of claim 106, wherein the second input signal comprises a local oscillator signal.

117. The method of claim 116, comprising the steps of:

providing:

a limiter circuit in communication with the mixer circuit; and

limiting a swing range of the local oscillator signal applied to the mixer circuit, using the limiter circuit.

118. The method of claim 106, comprising the steps of:

providing:

a variable load in communication with the mixer circuit and responsive to the differential mixer output signal; and

varying the gain of the single-ended-to-differential mixer, using the variable load.

119. The method of claim 106, wherein at least the differential input circuit, the first and second cancellation circuits, and the mixer circuit are formed on a monolithic substrate.

120. The method of claim 119, wherein a passive tank circuit is formed on the monolithic substrate.

121. The method of claim 106, wherein the single-ended-to-differential mixer comprises a mixer portion of a wireless transceiver.

122. The method of claim 106, wherein the method is compliant with a standard selected from the group consisting of 802.11, 802.11a, 802.11b, 802.11g and 802.11i.